

**METHOD AND APPARATUS FOR CACHING FREE MEMORY CELL POINTERS**

**ABSTRACT**

5       A method and apparatus are provided for caching free cell  
      pointers pointing to memory buffers configured to store data  
      traffic of network connections. In one example, the method  
      stores free cell pointers into a pointer random access memory  
      (RAM). At least one free cell pointer is temporarily stored  
10      into internal cache configured to assist in lowering a  
      frequency of reads from and writes to the pointer RAM. A  
      request is received from an external integrated circuit for  
      free cell pointers. Free cell pointers are sent to queues of  
      the external integrated circuit, wherein each free cell  
15      pointer in a queue is configured to become a write cell  
      pointer. At least one write cell pointer and a corresponding  
      cell descriptor is received from the external integrated  
      circuit. Free cell pointer counter values are then calculated  
      in order to keep track of the free cell pointers.